PSMA3 Protein, Human (His)

Cat. No.:	HY-P75988
Synonyms:	Proteasome subunit alpha type-3; Macropain subunit C8; PSMA3; HC8; PSC8
Species:	Human
Source:	E. coli
Accession:	P25788-1 (M1-M255)
Gene ID:	5684
Molecular Weight:	Approximately 30 kDa

PROPERTIES

AA Sequence	M S S I G T G Y D L S A S T F S P D G R V F Q V E Y A M K A V E N S S T A I G I R C K D G V V F G V E K L V L S K L Y E E G S N K R L F N V D R H V G M A V A G L L A D A R S L A D I A R E E A S N F R S N F G Y N I P L K H L A D R V A M Y V H A Y T L Y S A V R P F G C S F M L G S Y S V N D G A Q L Y M I D P S G V S Y G Y W G C A I G K A R Q A A K T E I E K L Q M K E M T C R D I V K E V A K I I Y I V H D E V K D K A F E L E L S W V G E L T N G R H E I V P K D I R E E A E K Y A K E S L K E E D E S D D D N M
Biological Activity	Measured by its ability to inhibit the proliferation of SK-OV-3 cells. The ED_{50} for this effect is 0.1116 μg/mL, Corresponding to a specific activity is 8.960×10^3 Unit/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of PBS, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O. For long term storage it is recommended to add a carrier protein (0.1% BSA, 5% HSA, 10% FBS or 5% Trehalose).
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	PSMA3, a crucial component of the 20S core proteasome complex, plays a pivotal role in the ATP-dependent degradation of ubiquitinated proteins, contributing to the maintenance of protein homeostasis. When associated with two 19S regulatory

particles, it forms the 26S proteasome, which is integral in removing misfolded or damaged proteins to preserve cellular functions. In conjunction with PA200 or PA28, the 20S proteasome facilitates ubiquitin-independent protein degradation, vital for processes like spermatogenesis and the generation of MHC class I-presented antigenic peptides. PSMA3 also binds to the C-terminus of CDKN1A, mediating its degradation, and negatively regulates the membrane trafficking of the cell-surface thromboxane A2 receptor isoform 2. The 26S proteasome, comprising a 20S proteasome core and two 19S regulatory subunits, functions as a barrel-shaped complex made of 28 subunits arranged in four stacked rings. The proteolytic activity of the 20S core is executed by three beta-subunits, PSMB5, PSMB6, and PSMB7. PSMA3 further engages in protein interactions with AURKB, CDKN1A, MDM2, RB1, TBXA2R isoform 2, and DNAJB2, underscoring its versatile roles in cellular regulatory pathways.

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